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Letter to the Editor

Adherence to Anti-Myasthenic Drugs May Improve With Optimal Ballance between Effect and Side-Effect

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In a recent article, Vitturi *et al.*, reported about a cross-sectional study on the quality of adherence of 58 consecutive Brasilian patients with myasthenia gravis (MG) by means of the myasthenia gravis composite (MGC) scale, the hospital anxiety and depression scale (HADS), the quality of life for MG (MG15-CoL) scale, and the Morisky medication adherence scale (MMAS) (Vitturi, B. K. *et al.*, 2019). It was concluded that adherence to anti-myasthenic medication can be challenging and that the therapeutic success strongly depends on adherence. We have the following comments and concerns.

Adherence may decrease with polymorbidity (Pascuzzi, R. M. 1998). The mean umber of comorbidities, however, was only 1.2. There are also indications that adherence may increase with polymorbidity (Juste, A. M. *et al.*, 2019). Thus, it is worthwhile to know which other types of diseases the 58 included patients had. Did the authors consider polymorbidity as an influencing factor and was polymorbidity more frequent among those with poor or high adherence?

MG is occasionally complicated by myasthenic or cholinerig crisis. It is conceivable according to the data presented that myasthenic crises were more frequent among those with poor adherence, whereas cholinergic crises were more frequent among those with good adherence. We should know if the frequency of myasthenic respectively cholinergic crises was dependent on the degree of adherence in the investigated cohort. According to table 1, 27% of the patients had an exacerbation of MG during the year prior to the investigation. Do the authors mean deterioration of MG by exacerbation or myasthenic / cholinergic crisis?

Given the fact that the mean number of drugs a patient was regularly taking was only 4.6 and that the minimum dosage of pyridostigmin is usually 4 drugs per day, MG seems to have been stable in most of the patients, assuming that all included patient took cholinergics. We should know how many of the 58 included patients had a stable course of MG and how many any an unstable course. According to table 1 only 7% of the patients were in class IV. We should know if only the anti-myasthenic drugs were registered for this study or all drugs a single patient was taking.

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It is unclear if all included patients had antibodies against the AchR or if there were also MUSK-positive patients. Knowing the underlying pathogenicity of MG is crucial as treatment and thus adherence may vary considerably between these entities.

Only 70% of the patients were under an immunosuppressive treatment. We should know if the remaining patients had ocular myasthenia, low or absent antibody titres, or refused to take the immunosuppressive medication. We should also know if only azathioprine or mycophenolate mofetil or also other immunosuppressive medication, such as rituximab, was applied. Missing in this respect is if the course of MG was associated with the titres of AchR-antibodies.

Since nine patients were seronegative, we should know how MG was diagnosed in these patients. Repetitive nerve stimulation may show a decremental response also in diseases other than MG (Finsterer, J. *et al.,* 2002). Diseases other than MG may also show a beneficial response to cholinergic drugs (Horemans, H. L. D. *et al.,* 2003). Thus we should know why seronegative patients were included and how they were diagnosed as MG.

Overall, this interesting study could be more meaningful if a number of shortcomings as indicated above were addressed, After having met these points, conclusions at variance to the current ones may be drawn.

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